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THE EFFECTS OF VIDEO-TAPING PROCEDURES IN AN EXPERIMENTAL READING PROGRAM.

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THE EXPERIMENTAL USE OF VIDEO AND TAPE RECORDINGS IN TEACHING THREE NEUROLOGICALLY DISABLED BOYS AGED 8, 9, AND 10 TO READ IS REPORTED. EXPERIENCE CHARTS WERE USED TO PRESENT BOTH UNCONTROLLED AND CONTROLLED VOCABULARY. THREE SPACES VIDEO-TAPED DEMONSTRATIONS WITH THE CHILDREN WERE USED TO DIAGNOSE PROGRESS AND AS MOTIVATIONAL DEVICES. THE LANGUAGE MASTER, AN AUDIO TAPE RECORDER WITH A DOUBLE TRACK, PROVIDED THE MULTISENSORY APPROACH, SO THAT EVERY LESSON INCLUDED MOTOR SKILLS, SPEECH TRAINING, AUDITORY DISCRIMINATION, VISUAL PERCEPTION, AND RECOGNITION OF THE CONFIGURATIONS INVOLVED IN READING. THE TECHNIQUES IMPROVED SELF-ESTEEM AND MOTOR AND VERBAL COORDINATION. AFTER THE THIRD VIDEO TAPE, THE BOYS WERE READING WELL ENOUGH TO WORK WITH PREPRIMERS WITHOUT TOO MUCH TROUBLE. THE IMMEDIATE REPLAY OF THE VIDEO TAPES HAD A DISTINCT EFFECT ON THEIR BODY IMAGES WHICH MADE THE VIDEO TAPING PROCESS THE DECIDING FACTOR. THE VIDEO TAPES AND REPLAYS WHICH FOLLOWED EACH TAPING SESSION ENABLED THE BOYS TO SEE RESULTS AS THEY OCCURRED. THEY SAW THEMSELVES READING AND HEARD SPEECH ERRORS AND OBSERVED HYPERKINETIC MOVEMENTS OF WHICH THEY WEREN'T AWARE. THE VIDEO TAPES ALSO ENABLED OBSERVATION OF THE DYNAMICS BETWEEN TEACHER AND STUDENTS. THIS PAPER WAS PRESENTED AT THE ASSOCIATION FOR CHILDREN WITH LEARNING DISABILITIES 5TH ANNUAL CONFERENCE (BOSTON, FEBRUARY 1968). (MC)

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Introduction

The teaching process with children with learning disabilities is one of trial and error. The best ideas in the learning-teaching process are often spontaneous. Etiology is of little importance; remediation is the task. We must deal with what is there at the moment.

Three boys, chronologically aged eight, nine, and ten were non-readers. The common denominators among them were diagnosis at Columbia-Presbyterian Medical Center as neurologically impaired and placement in a special class in Tenafly, New Jersey. Degrees or types of impairment, learning disabilities, and actual functioning differed in each. There was one vital factor. All three wanted to read.

Organically, it could be said they weren't ready. Speaking and cognitive thinking needed further development. Neurological deficits in two of the children were such that they were still fighting to learn right from left in their own bodies. How, then, could they cope with the higher disciplines required for reading? They were vastly different from the so-called normal child who acquires speech or reading without actual training.

Could a third child, with the required mechanics, including good auditory discrimination and visual perception, but who was emotionally blocked, learn to read through techniques aimed at boosting his body image?

These were questions confronting the teacher at the outset of the experiment. The children's problems are shown in the following brief descriptions.

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Subjects and Backgrounds

1. Chris -- At the time of the experiment he was eight years old and had been in the class for one year. Before placement, results of testing on the Stanford-Binet had given him an IQ of 88. It was felt that this was a measure of his functional capacity but not a measure of his true potential.

On the functional level, auditory discrimination was very good while visual perception was below par in comparison with his chronological peers without neurological dysfunction. Gross motor coordination was only fair but was attributed, not to motor damage, but, rather, to lack of development. The child had a history of asthma, was failure-oriented, ego-centric, had little impulse control, and his frustration level was very low. He was undergoing drug therapy.

After one year in the special class much growth had occurred and he should have started to read. However, his fear of failure was preventing this.

2. Michael -- This child was nine years old and because of an RH factor had incurred brain damage. Prior to admission to the special class, his receptive language, as measured by the Peabody Picture Vocabulary, showed functioning at a 4.1 level. It was felt this didn't reflect his true potential because of his distractibility. Expressive language patterns were characterized by intra, rather than inter, verbalization. There was visual motor impairment with inability to catch or throw. Fine muscle control was poor.

It was found on the neurological examination that Michael's electroencephalogram was abnormal. There was marked delay in the development of expressive speech patterns. The child displayed

hyperkinetic behavioral syndrome and was placed on Mellaril.

After two years in the special class noticeable development had occurred. Gross motor coordination had improved. He could catch and throw, but couldn't skip. Small muscle control was acceptable. Although there was still a slight tendency toward perseveration in certain letters, they were written definitively combining all the concepts of up and down, above and below the lines. Manipulative activities were very good. Visual perception and auditory discrimination had developed remarkably. Hyperkinesis was under control and drug therapy had been discontinued. The prevalent theories, however, stated that he couldn't learn to read until he had speech.

3. Steven -- This child had been in the special class for three years. Before the experiment he easily became upset with his failures, frustrated and disappointed with himself. He recognized his shortcomings in performing academically, and tried to manipulate or control situations so that he could achieve.

On the Wechsler Intelligence Scale for Children he tested with a verbal scale of 69, performance scale of 62 -- full IQ of 62. The child was an anomoly. He was quite limited by serious organic difficulties, but his social maturity was (and is) on a par with his chronological peers. Steven had excellent comprehension and understanding of social situations. Academically, there was poor reasoning, poor spatial perception, and lack of rote memory. His drawings were distorted, indicating a poor self-image.

When the child first entered the special class he was characterized by inability to shift or cross a midline, poor balance and coordination of arms and legs. He perseverated, did not know how to

stop, had poor small muscle control, and limited visual perception. There was no ability to discrimininate, auditorially. He lacked concept formation and the ability to perceive simple likenesses and differences. There was hyperkinesis. His speech was diagnosed as aphasic. At first his only means for communication consisted of gesture and grunt language.

At the time the reading experiment was started, Steven was speaking in four word sentences, omitting articles and prepositions. He had developed normal gross motor coordination. Balance, catching, and throwing were good. Fine muscle skills and activities were performed with ease, including those related to direction of motion and manipulation. Concept formation was vastly improved as evidenced by his ability to space letters properly with all the concepts involved. Visual perception showed remaining difficulties in spatial orientation and auditory discrimination remained poor.

Program and Results

At the beginning of the school year of 1966-67, in spite of all the learning difficulties still present, the task was to teach these three boys to read --

1. for practical purposes, and
2. as a boost to their egos,

so important in their self image and in terms of their outside contacts with their chronological peers.

All the tried and true methods had failed. Among the approaches used were Scott-Foresman pre-primers, newspapers, exposure to words in the environment, the Catherine Stern Structural Reading Series, and the Harr-Wagner Space series which combined two senses -- listening and seeing. It was this last which gave the teacher the idea of using the Language Master, manufactured by Bell and Howell, which employed a multi-sensory approach. Any lesson had to include motor skills, speech training, auditory discrimination, visual perception, as well as recognizing configurations involved in reading. The Language Master is in essence an audio tape recorder with a double track. As it included all the above areas of concern it was used in this experiment. The order followed was:

1. The teacher wrote a story based on some actual happening in the class.
2. The story was read to the children.
3. A language or story chart was made on newsprint.
4. Individual words were printed on blank Language Master cards. The teacher recorded first and then one of the children recorded on the second track. (This also offered the child the opportunity to compare speech sounds.) The card was fed through the

machine and the "rule" was to keep eyes on the word as the card played back the recording.

5. Sentences were written on blank cards. The children drew the pictures to illustrate them and then the sentences were recorded.

The children played the cards over and over as they were made aware, simultaneously, of the same sentences on the newsprint chart. Similarities were pointed out. (The sentences on the chart had to be numbered to reduce confusion.)

The children all worked together to get the gist of the story. Later, as they listened with earphones, they replayed the taped cards by themselves.

The stories had to be concrete and appeal to the children with humor that had meaning for them. It had to be remembered that while these boys were functioning on a non-reader level they had a social maturity which demanded a high interest level. Each story had to maintain communication through speech at all times.

In November, 1966, after the boys started to recognize some words, they made a video-tape at the P.D.Q. Center -- (Project Developing Quality) -- a learning and demonstration center in Tenafly, New Jersey, directed by Dr. Ruth G. Arnold. P.D.Q., a Title III project, was established with federal funds under the Elementary and Secondary Education Act of 1965. This was the first in a series of three video-tapes. (Video-taping was done via an Ampex 660B Recorder and two RCA television cameras, with the necessary input and output equipment.)

The first video-tape demonstrated the method applied in class by reviewing part of one familiar story and introducing a new one. It showed the learning process as it was happening. The reason for making the tape initially was for educational purposes for professionals. The extent of benefits for the children was not fully realized at first. The

values of the learning center (P.D.Q.) became immediately apparent by the positive reactions of the students. The idea of being "on television" was a new one, something quite different from the usual classroom environment. This provided them with the added impetus to proceed with further language stories in their normal surroundings.

When the project was first started it was stressed as experimental. It was felt it would be successful if only a few words were learned and retained from each story. In February 1967 the children returned to P.D.Q. to make the second video-tape. This tape was least dramatic in terms of the children's added learning and reactions from the parent-composed audience in the observation booth. (The author is grateful to the parents involved because their cooperation and enthusiasm for the project instilled additional excitement in the children -- all so necessary for accomplishment.) However, this tape, in retrospect, was the most important for the teacher. Although there was an indication of a breakthrough for the children, it was the teacher who, through the facility of immediate playback, observed deterrents to faster learning. The teacher learned:

1. The language stories may have taught the children a few words. However, few were adequately retained, because there were too many words bombarding them at once. Confusion resulted.
2. The teacher was spoon-feeding, in a sense, because of the desire to enable the boys to read. The spoon-feeding technique was readily observed on the video-tape.
3. Controlled vocabulary would be more effective since the teacher was:
   a. Running the risk of Chris' memorizing the sentences.

b. It was sometimes difficult for the children to keep eyes focused on the card as it went through the machine. No more than one sentence could be placed on the relatively small card; the children experienced spatial confusion and inability to shift their eye muscles rapidly enough to maintain continuity in each sentence.

c. In hearing a story, the words "a" and "the" sound somewhat alike to a child with poor auditory discrimination. When configuration means little these two words are easily confused. The use of a phonetic alphabet for sounds was less confusing.

d. Steven and Michael had difficulty understanding rhythm patterns in a sentence of more than four words. Not only was a controlled reading story necessary, but the teacher had to think of speech sounds and tongue movements required for each word in a sentence. Speech patterns influenced the reading. There had to be repetition of certain words because speech patterns required them. Abstract pronouns instead of concrete nouns created additional difficulties.

That second video-tape was important, therefore, because it revealed what was lacking in our experiment. Bearing in mind what was learned, the proud "thespians" -- or at least polished performers by that time -- set to work on stories with a controlled reading vocabulary. The children, tolerant of their teacher's attempts at story-writing, were so pleased with themselves, their successes (they had seen themselves reading a few words on

the replay of the tapes), and their sudden status as regulars on "television," that they were willing to accept any story presented to them. It should be stated at this point that the children were not affected with what might have seemed an intrusion of the electronic environment. The teacher found, then, that the repetition with controlled vocabulary, plus the multi-sensory learning experience provided by the Language Master, was what the children needed. Learning was taking place in a shorter period of time with greater retention on the children's part. Several such stories were done in class after the February video-tape. There was a sudden spurt and the boys were actually reading.

The third video-tape was made in April, 1967. This was a controlled vocabulary story about being on television since that had been the highlight of the school year. Immediate replay of the tape proved that this type of story had been more effective. (The value of the initial language stories could not be negated, however. They served a purpose by presenting three somewhat sophisticated children with material they would accept.) After the third tape the boys made the transition into regular pre-primers. At this point they did not mind the repetitious quality since they were reading "real" books.

Conclusions

The third video-tape proved that the experiment had succeeded. The children were reading well enough to work with the pre-primers without too much trouble. At the time of this writing, the boys have almost finished the third pre-primer. The two younger ones are reading well. Steven has difficulties, but in the light of his organic involvement this is to be understood.

There were many variables involved in this experimental reading method. The writer feels, however, that the special environment of P.D.Q. and the immediate replay of the video-tapes had a distinct effect on the children's body image, thereby making the video-taping process the deciding factor. This creation of a new type of educational environment implemented a mixed approach to an old subject. Although P.D.Q. was set up as a learning and demonstration center for all children, it provided educational services not otherwise available in terms of assessment of function and behavior for these children with learning disabilities.

One wonders if any electronic tool is a crutch. Does it matter, though, if a crutch is used in achieving a much sought after purpose? In this experiment the children were easily able to relinquish the crutch (if it is so considered).

Another question which comes to mind is how did this process aid the neurologically impaired to organize the thinking necessary to reading while he was struggling to differentiate left from right. Could the increased body image outbalance these learning disabilities, and help the children to achieve in spite of them? Possibly, it was necessary before learning could take place.

The results were actually achieved in the classroom, but the video-tapes and replays which followed each taping session enabled the boys to see the

results and growth as both had occurred. By watching themselves on the monitor screen they saw themselves reading, little by little, whereas in the classroom this was not possible. The replays offered the children an opportunity critically to evaluate, appraise, and assess their work. The children heard speech errors and observed hyperkinetic movements of which they weren't aware. Seeing the first tape and enjoying their success provided the impetus for them to go on. The promise of making more tapes kept urging them on. (Motor coordination also improved when the drawings made for the first video-tape and the third were compared.)

Parent approval and encouragement in the project strengthened all concerned. The children were quick to understand the innuendoes of parental pride in their accomplishments. This added to their new-found self-esteem. The teacher was grateful for the cooperation she received in their willingness to back an experimental procedure. Thus, she felt free from restriction and unhampered in her need to change her methods into positive, workable factors. For the parents, themselves, the taping sessions resulted in social events of great importance. As a group, in the observation area behind the one-way vision mirror, they could observe the proceedings without emotional involvement because they could discuss what they were seeing. This was an opportunity to observe their children in a learning situation, something not possible in the regular classroom, where the entrance of a parent changes the dynamics of the situation.

The boost to the children's body image cannot be evaluated in words or by tests. Emphasis on this important aspect is made when one recalls the original variety of learning problems hindering the children's ability to read. At the outset reaching for the stars was not planned, merely a breakthrough was hoped for. The experiment provided it with added dividends. The gaining of self-esteem via the facilities of P.D.Q., which recorded the

teaching-learning process was the key to the success of the program. How else can it be explained that a child without true speech or one with severe organic damage affecting those areas of development necessary for the disciplines of reading, did learn to read? To the children there was another simple delight. None of their peer group could say that he had been on television regularly.

The tapes also enabled observation of the dynamics between teacher and students. For the teacher there was (and is) no other way to observe, not merely sense, inadequacies in methods and materials.

Teaching often requires a change of environment. This unusual one provided the facilities and practice for feedback about learning in order to analyze and modify practices and behavior. It enabled all kinds of growth and demonstrated the potential success of the use of video-taping within the classroom set-up.

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